

Employing Electromagnetic By-Product Radiation for Object Tracking

Patent Application

Abstract

A system **200** for tracking the movement of multiple objects within a predefined area using a combination of overhead X-Y filming cameras **125** and tracking cameras **124** with attached frequency selective filter **124f**. Also employed is perspective Z filming cameras **125** and tracking cameras **124** with filter **124f**. The preferred energy source is existing rink lamp **10** that emits electromagnetic by-product radiation in either the UV range for typical Metal Halide lamps or the IR range for typical Xenon Arc lamps. Foreground objects to be tracked such as player **110**, jersey **105**, stick **104** and puck **103** have been marked to include some form of frequency selective reflective material, such reflective material **20a**, retroreflective material **20b** or fluorescent material **20c**. Prior to marking, foreground objects such as jersey **105** and stick **104** have first been treated with either a UV or IR absorbent compound such as **24** that absorbs incident tracking energy rays. In the situation where IR is used as the tracking energy, player **110** will typically emit unwanted interference ray **13c** in which case the inside of jersey **105** may be additionally treated with IR an absorbent compound such as **26**.